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| | 10 | 20 | 30 | 40 | 50 | |
|--------------|-----|------------|------------|-------------|-------------|------------|
| DSFBP314.AMI | 1 | MSNPPIYLDY | SATTPVDPNV | VEKMPWLYE | SFGNPASRSH | AFGWEAEDAV |
| DSFBP536.AMI | 1 | MSNPPIYLDY | SATTPVDPNV | VEKMPWLYE | SFGNPASRSH | AFGWEAEDAV |
| | 60 | 70 | 80 | 90 | 100 | |
| DSFBP314.AMI | 51 | EKAREEVAKL | VNADPREIVW | TSGATESDNL | AIKGAAANFYA | ERGKHIITVK |
| DSFBP536.AMI | 51 | EKAREEVAKL | VNADPREIVW | TSGATESDNL | AIKGAAANFYA | ERGKHIITVK |
| | 110 | 120 | 130 | 140 | 150 | |
| DSFBP314.AMI | 101 | TEHKAVLDTC | RELERQGFEV | TYLDVQDDGL | LSLDAFKAL | RPDTILVSM |
| DSFBP536.AMI | 101 | TEHKAVLDTC | RELERQGFEV | TYLDVQDDGL | LSLDAFKAL | RPDTILVSM |
| | 160 | 170 | 180 | 190 | 200 | |
| DSFBP314.AMI | 151 | MVNNEIGVIQ | DIAALGEICR | EKGIIIFHVDA | AQATGKVEID | LQKLKVDLMS |
| DSFBP536.AMI | 151 | MVNNEIGVIQ | DIAALGEICR | EKGIIIFHVDA | AQATGKVEID | LQKLKVDLMS |
| | 210 | 220 | 230 | 240 | 250 | |
| DSFBP314.AMI | 201 | FSAHKTYGPK | GIGALYVRRK | PRVRIEAQMH | GGGHERGFRS | GTLATHQIVG |
| DSFBP536.AMI | 201 | FSAHKTYGPK | GIGALYVRRK | PRVRIEAQMH | GGGHERGFRS | GTLATHQIVG |
| | 260 | 270 | 280 | 290 | 300 | |
| DSFBP314.AMI | 251 | MGEAFRLARE | EMGTENERVR | MLRDRLLAGL | TQIEEVYVNG | SMEHRVPHNL |
| DSFBP536.AMI | 251 | MGEAFRLARE | EMGTENERVR | MLRDRLLAGL | TQIEEVYVNG | SMEHRVPHNL |
| | 310 | 320 | 330 | 340 | 350 | |
| DSFBP314.AMI | 301 | NISFNYVEGE | SLIMAIKELA | VSSGSACTSA | SLEPSYVLRA | LGRNDELAHS |
| DSFBP536.AMI | 301 | NISFNYVEGE | SLIMAIKELA | VSSGSACTSA | SLEPSYVLRA | LGRNDELAHS |
| | 360 | 370 | 380 | 390 | 400 | |
| DSFBP314.AMI | 351 | SIRFTLGRFT | TEQEIDFTIE | LIKSRVGKLR | DMSPLWEMAQ | EGIDLNSVQW |
| DSFBP536.AMI | 351 | SIRFTLGRFT | TEQEIDFTIE | LIKSRVGKLR | DMSPLWEMAQ | EGIDLNSVQW |
| | 410 | 420 | 430 | 440 | 450 | |
| DSFBP314.AMI | 401 | AAH* | | | | 450 |
| DSFBP536.AMI | 401 | AAH* | | | | 450 |
| | 10 | 20 | 30 | 40 | 50 | |
| DSF314.DNA | 1 | ATGAGCAATC | GCCCCATCTA | CCTGGACTAC | TCGGCTACCA | CGCCGGTCGA |
| DSF536F1.DNA | 1 | ATGAGCAATC | GCCCCATCTA | CCTGGACTAC | TCGGCTACCA | CGCCGGTCGA |
| DSF536R1.DNA | 1 | ----- | ----- | ----- | ----- | 50 |
| DSF53611.DNA | 1 | ----- | ----- | ----- | ----- | 50 |
| DSF53612.DNA | 1 | ----- | ----- | ----- | ----- | 50 |
| | 60 | 70 | 80 | 90 | 100 | |
| DSF314.DNA | 51 | CCCGAGCGTG | GTCGAGAAAA | TGATTCCTG | GTTGTACGAG | AGTTTCGGCA |
| DSF536F1.DNA | 51 | CCCGAGCGTG | GTCGAGAAAA | TGATTCCTG | GTTGTACGAG | AGTTTCGGCA |
| DSF536R1.DNA | 51 | ----- | ----- | ----- | ----- | 100 |
| DSF53611.DNA | 51 | ----- | ----- | ----- | ----- | 100 |
| DSF53612.DNA | 51 | ----- | ----- | ----- | ----- | 100 |
| | 110 | 120 | 130 | 140 | 150 | |
| DSF314.DNA | 101 | ATCCGGCTC | GCGCAGCCAC | GCCTTTGGCT | GGGAAGCCGA | GGACCGGGTC |
| DSF536F1.DNA | 101 | ATCCGGCTC | GCGCAGCCAC | GCCTTTGGCT | GGGAAGCCGA | GGACCGGGTC |
| DSF536R1.DNA | 101 | ----- | ----- | ----- | ----- | 150 |
| DSF53611.DNA | 101 | ----- | ----- | ----- | ----- | 150 |
| DSF53612.DNA | 101 | ----- | ----- | ----- | ----- | 150 |
| | 160 | 170 | 180 | 190 | 200 | |
| DSF314.DNA | 151 | GAGAAGGCC | GCGAGGAAGT | TGCCAAGCTG | GTCAACGCCG | ATCCGGCGCA |
| DSF536F1.DNA | 151 | GAGAAGGCC | GCGAGGAAGT | TGCCAAGCTG | GTCAACGCCG | ATCCGGCGCA |
| DSF536R1.DNA | 151 | ----- | ----- | ----- | ----- | 200 |
| DSF53611.DNA | 151 | ----- | ----- | ----- | ----- | 200 |
| DSF53612.DNA | 151 | ----- | ----- | ----- | ----- | 200 |
| | 210 | 220 | 230 | 240 | 250 | |
| DSF314.DNA | 201 | GATCGTCTGG | ACTTCCGGCG | CTACCGAGTC | GGACAACCTG | GCCATCAAGG |
| DSF536F1.DNA | 201 | GATCGTCTGG | ACTTCCGGCG | CTACCGAGTC | GGACAACCTG | GCCATCAAGG |
| DSF536R1.DNA | 201 | ----- | ----- | ----- | ----- | 250 |
| DSF53611.DNA | 201 | ----- | ----- | ----- | ----- | 250 |
| DSF53612.DNA | 201 | ----- | ----- | ----- | ----- | 250 |
| | 260 | 270 | 280 | 290 | 300 | |
| DSF314.DNA | 251 | GCGCGGC | GAA | TTTCTACGCC | GAGCGCGGCA | AGCACATCAT |
| DSF536F1.DNA | 251 | GCGCGGC | GAA | TTTCTACGCC | GAGCGCGGCA | AGCACATCAT |
| DSF536R1.DNA | 251 | ----- | ----- | ----- | ----- | 300 |
| DSF53611.DNA | 251 | ----- | ----- | ----- | ----- | 300 |
| | 251 | ----- | ----- | ----- | ----- | 300 |

Figure 7A



U.S. Serial No. 09/825,769
 Milan S. BLAKE et al.
 METHOD FOR THE PRODUCTION OF
 BACTERIAL TOXINS
 37974-0054

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| | | | |
|--------------|-----|--|-----|
| DSF53612.DNA | 251 | ----- | 300 |
| DSF53611.DNA | 301 | 310 320 330 340 350 | 350 |
| DSF536F1.DNA | 301 | ACCGAACACA AGGCGGTGCT GGATACCTGT CGGGAGCTCG AACGCCAGGG | 350 |
| DSF536R1.DNA | 301 | ----- | 350 |
| DSF53611.DNA | 301 | ----- | 350 |
| DSF53612.DNA | 301 | ----- | 350 |
| DSF53611.DNA | 351 | 360 370 380 390 400 | 400 |
| DSF536F1.DNA | 351 | CTTGAAAGTG ACCTACCTGG ATGTCAGGA CGATGGCTCG CTCAGCCTCG | 400 |
| DSF536R1.DNA | 351 | CTTGAAAGTG ACCTACCTGG ATGTCAGGA CGATGGCTCG CTCAGCCTCG | 400 |
| DSF53611.DNA | 351 | ----- | 400 |
| DSF53612.DNA | 351 | ----- | 400 |
| DSF53611.DNA | 401 | 410 420 430 440 450 | 450 |
| DSF536F1.DNA | 401 | ATCGTTCAA GGCTGGCTG CGCCGGATA CCATCTGGT GTCGGTGATG | 450 |
| DSF536R1.DNA | 401 | ATCGTTCAA GGCTGGCTG CGCCGGATA CCATCTGGT GTCGGTGATG | 450 |
| DSF53611.DNA | 401 | ----- | 450 |
| DSF53612.DNA | 401 | ----- | 450 |
| DSF53611.DNA | 451 | 460 470 480 490 500 | 500 |
| DSF536F1.DNA | 451 | ATGGTCAACA ACGAGATCGG CGTCATCCAG GACATGCCG CGCTGGCGA | 500 |
| DSF536R1.DNA | 451 | ATGGTCAACA ACGAGATCGG CGTCATCCAG GACATGCCG CGCTGGCGA | 500 |
| DSF53611.DNA | 451 | ----- | 500 |
| DSF53612.DNA | 451 | ----- | 500 |
| DSF53611.DNA | 501 | 510 520 530 540 .. 550 | 550 |
| DSF536F1.DNA | 501 | GATCTGCCG GAGAAGGGCA TCATCTTCCA CGTGGACCGC GCCCAGGCCA | 550 |
| DSF536R1.DNA | 501 | GATCTGCCG GAGAAGGGCA CATCTTCCA CGTGGACCGC GCC-AAGCCA | 550 |
| DSF53611.DNA | 501 | ----- | 550 |
| DSF53612.DNA | 501 | ----- | 550 |
| DSF53611.DNA | 501 | GATCTGCCG GAGAAGGGCA TCATCTTCCA CGTGGACCGC GCCCAGGCCA | 550 |
| DSF536F1.DNA | 551 | 560 570 580 590 600 | 600 |
| DSF536R1.DNA | 551 | CCCGCAAGGT CGAGATCGAC CTGCAGAAGC TGAAGGTGGA CCTGATGTCG | 600 |
| DSF53611.DNA | 551 | ACCGCAAGGT CGAGATC-- | 600 |
| DSF53612.DNA | 551 | ----- | 600 |
| DSF53611.DNA | 551 | ----- | 600 |
| DSF53612.DNA | 551 | CCGGCAAGGT CGAGATCGAC CTGCAGAAGC TGAAGGTGGA CCTGATGTCG | 600 |
| DSF53611.DNA | 601 | 610 620 630 640 650 | 650 |
| DSF536F1.DNA | 601 | TTCTCGGCGC ACAAGACGTA CGGCCCAAG GGCATCGCG CGCTGTATGT | 650 |
| DSF536R1.DNA | 601 | ----- | 650 |
| DSF53611.DNA | 601 | TTCTCGGCGC ACAAGACGTA CGGCCCAAG GGCATCGCG CGCTGTATGT | 650 |
| DSF53612.DNA | 601 | TTCTCGGCGC ACAAGACGTA CGGCCCAAG GGCATCGCG CGCTGTATGT | 650 |
| DSF53611.DNA | 660 | 670 680 690 700 | 700 |
| DSF536F1.DNA | 660 | GCGCGCAAG CCGCGCTGC GCATCGAGGC GCAGATGCA CGCGCGGCC | 700 |
| DSF536R1.DNA | 660 | ----- | 700 |
| DSF53611.DNA | 660 | GGCGCAAG CGCGCGTGN GNATCGAGGC GCAGATGCA CGCGCGGCC | 700 |
| DSF53612.DNA | 660 | GGCGCGCAAG CGCGCGTGC GCATCGAGGC GCAGATGCA CGCGCGGCC | 700 |
| DSF53611.DNA | 660 | GGCGCGCAAG CGCGCGTGC GCATCGAGGC NTAGATGCA CGCGCGGCC | 700 |
| DSF53612.DNA | 660 | ----- | 700 |
| DSF53611.DNA | 701 | 710 720 730 740 750 | 750 |
| DSF536F1.DNA | 701 | ACGAACGGGG CTTCCGGTCG GGCACGCTGG CCACGCACCA GATCGTCGGC | 750 |
| DSF536R1.DNA | 701 | ----- | 750 |
| DSF53611.DNA | 701 | ACGAACGGGG CTTCCGGTCG GGCACGNTGG CCACGCACCA GATCGTCGGC | 750 |
| DSF53612.DNA | 701 | ACGAACGGGG CTTCCGGTCG GGCACGCTGG CCACGCACCA GATCGTCGGC | 750 |
| DSF53611.DNA | 701 | ACGAACGG-- | 750 |
| DSF536F1.DNA | 760 | 770 780 790 800 | 800 |
| DSF536R1.DNA | 760 | ATGGGGCAGG CGTTCCGCCT GGCGCGCGAG GAAATGGGCA CCGAGAACGA | 800 |
| DSF53611.DNA | 760 | ----- | 800 |
| DSF53612.DNA | 760 | ATGGGGCAGG CGTTCCGCCT GGCGCGCGAG GAAATGGGCA CCGAGAACGA | 800 |
| DSF53611.DNA | 760 | ATGGGGCAGG CGTTCCGCCT GGCGCGCGAG GAAATGGGCA CCGAGAACGA | 800 |
| DSF53612.DNA | 760 | ----- | 800 |
| DSF53611.DNA | 751 | 810 820 830 840 850 | 850 |
| DSF536F1.DNA | 751 | GCGCGTGCAG ATGCTGCAGG ACCGCCTGCT GGCGCGCTCG ACGCAGATCG | 850 |
| DSF536R1.DNA | 751 | ----- | 850 |
| DSF53611.DNA | 751 | GCGCGTGCAG ATGCTGCAGG ACCGCCTGCT GGCGCGCTCG ACGCAGATCG | 850 |
| DSF53612.DNA | 751 | ----- | 850 |
| DSF53611.DNA | 801 | GCGCGTGCAG ATGCTGCAGG ACCGCCTGCT GGCGCGCTCG ACGCAGATCG | 850 |
| DSF536F1.DNA | 801 | ----- | 850 |
| DSF536R1.DNA | 801 | GCGCGTGCAG ATGCTGCAGG ACCGCCTGCT GGCGCGCTCG ACGCAGATCG | 850 |
| DSF53611.DNA | 801 | ----- | 850 |
| DSF53612.DNA | 801 | GCGCGTGCAG ATGCTGCAGG ACCGCCTGCT GGCGCGCTCG ACGCAGATCG | 850 |

Figure 7B

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| | 860 | 870 | 880 | 890 | 900 | |
|--------------|------|------------|-------------|-------------|------------|-------------|
| DSF314.DNA | 851 | AGGAAGTGT | TGTGAAACGGC | ACCATGGAGC | ACCCGGTGT | GCACAAACCTG |
| DSF536F1.DNA | 851 | ----- | ----- | ----- | ----- | 900 |
| DSF536R1.DNA | 851 | AGGAAGTGT | TGTGAAACGGC | ACCATGGAGC | ACCCGGTGT | GCACAAACCTG |
| DSF53611.DNA | 851 | AGGAAGTGT | TGTGAAACGGC | ACCATGGAGC | ACCCGGTGT | GCACAAACCTG |
| DSF53612.DNA | 851 | ----- | ----- | ----- | ----- | 900 |
| | 910 | 920 | 930 | 940 | 950 | |
| DSF314.DNA | 901 | AACATCAGCT | TCAACTATGT | CGAGGGCGAG | TCTCTGATCA | TGGCGATCAA |
| DSF536F1.DNA | 901 | ----- | ----- | ----- | ----- | 950 |
| DSF536R1.DNA | 901 | AACATCAGCT | TCAACTATGT | CGAGGGCGAG | TCTCTGATCA | TGGCGATCAA |
| DSF53611.DNA | 901 | AACATCAGCT | TCAACTATGT | CGAGGGCGAG | TCTCTGATCA | TGGCGATCAA |
| DSF53612.DNA | 901 | ----- | ----- | ----- | ----- | 950 |
| | 960 | 970 | 980 | 990 | 1000 | |
| DSF314.DNA | 951 | GGAGCTGGCC | GTTTCCAGCG | GTTCGGCCCTG | CACGTCGGCC | AGCCTGGAGC |
| DSF536F1.DNA | 951 | ----- | ----- | ----- | ----- | 1000 |
| DSF536R1.DNA | 951 | GGAGCTGGCC | GTTTCCAGCG | GTTCGGCCCTG | CACGTCGGCN | AGCCTGGAGC |
| DSF53611.DNA | 951 | GGAGCTGGCC | GTTTCCAGCG | GTTCGGCCCTG | CACGTCGGC | ----- |
| DSF53612.DNA | 951 | ----- | ----- | ----- | ----- | 1000 |
| | 1010 | 1020 | 1030 | 1040 | 1050 | |
| DSF314.DNA | 1001 | CGTCCTATGT | GCTGCGGGCG | CTGGGCCGCA | ACGACGAGCT | GGCGCACAGC |
| DSF536F1.DNA | 1001 | ----- | ----- | ----- | ----- | 1050 |
| DSF536R1.DNA | 1001 | CGTCCTATGT | GCTGCGGGCG | CTGGGCCGCA | ACGACGAGCT | GGCGCACAGC |
| DSF53611.DNA | 1001 | ----- | ----- | ----- | ----- | 1050 |
| DSF53612.DNA | 1001 | ----- | ----- | ----- | ----- | 1050 |
| | 1060 | 1070 | 1080 | 1090 | 1100 | |
| DSF314.DNA | 1051 | TCCATCCGCT | TTACCCCTGGG | CCGCTTCACG | ACCGAACAGG | AAATCGACTT |
| DSF536F1.DNA | 1051 | ----- | ----- | ----- | ----- | 1100 |
| DSF536R1.DNA | 1051 | TCCATCCGCT | TTACCCCTGGG | CCGCTTCACG | ACCGAACAGG | AAATCGACTT |
| DSF53611.DNA | 1051 | ----- | ----- | ----- | ----- | 1100 |
| DSF53612.DNA | 1051 | ----- | ----- | ----- | ----- | 1100 |
| | 1110 | 1120 | 1130 | 1140 | 1150 | |
| DSF314.DNA | 1101 | CACGATCGAA | CTGATCAAGA | GTCGTGTCGG | CAAGCTGCGC | GATATGTCGC |
| DSF536F1.DNA | 1101 | ----- | ----- | ----- | ----- | 1150 |
| DSF536R1.DNA | 1101 | CACGATCGAA | CTGATCAAGA | GTCGTGTCGG | CAAGCTGCGC | GATATGTCGC |
| DSF53611.DNA | 1101 | ----- | ----- | ----- | ----- | 1150 |
| DSF53612.DNA | 1101 | ----- | ----- | ----- | ----- | 1150 |
| | 1160 | 1170 | 1180 | 1190 | 1200 | |
| DSF314.DNA | 1151 | CGTTGTGGGA | AATGGCCCGAG | GAAGGCATTG | ATCTGAATTC | CGTGCAGTG |
| DSF536F1.DNA | 1151 | ----- | ----- | ----- | ----- | 1200 |
| DSF536R1.DNA | 1151 | CGTTGTGGGA | AATGGCCCGAG | GAAGGCATTG | ATCTGAATTC | CGTGCAGTG |
| DSF53611.DNA | 1151 | ----- | ----- | ----- | ----- | 1200 |
| DSF53612.DNA | 1151 | ----- | ----- | ----- | ----- | 1200 |
| | 1210 | 1220 | 1230 | 1240 | 1250 | |
| DSF314.DNA | 1201 | GCCGCGCACT | GA | ----- | ----- | 1250 |
| DSF536F1.DNA | 1201 | ----- | ----- | ----- | ----- | 1250 |
| DSF536R1.DNA | 1201 | GCCGCGCACT | GA | ----- | ----- | 1250 |
| DSF53611.DNA | 1201 | ----- | ----- | ----- | ----- | 1250 |
| DSF53612.DNA | 1201 | ----- | ----- | ----- | ----- | 1250 |

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Figure 7C